

ABSTRACT

A system (10) and method for high-speed massive magnetic imaging on a spin-stand (12) is provided. The system (10) includes a spin-stand system (12) for driving a rotational spindle (20) to which a magnetic hard disk (30) is mounted. A magnetic read head (40) reads data from disk (30) and is in electrical communication with a universal head preamplification board (50). The universal head preamplification board (50) outputs readable voltage signals which are transmitted to an oscilloscope (60) for displaying a read-back voltage display (70). The signals are processed by a processing means (90) to generate scanned image data (100) on a display means. The display signals (70) are utilized to calibrate the magnetically read data to account for the eccentricity of the hard disks with respect to the center of rotation of the spin-stand spindle. Whole tracks of hard disk data can be imaged through the process of “track-centering” and “track-following”. An alignment algorithm is used to align the magnetically read data to compensate for the instability of the triggering signal.